UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

March 9, 2001

Mr. Doug Gochnour
Clearwater National Forest
12730 Highway 12
Orofino, Idaho 83522

Re: Biological Opinion and Essential Fish Habitat Consultation for the Spruce Moose Right of Way and Timber Sale

Dear Mr. Gochnour:

This document transmits the National Marine Fisheries Service's (NMFS) biological opinion (Opinion) for the proposed Spruce Moose road right-of-way permit and timber sale, in accordance with the Endangered Species Act (ESA) and the Magnuson-Stevens Act. The Clearwater National Forest (CNF) determined in a July 29, 1999, biological assessment (BA), amended March 7, 2000, that the proposed action is likely to adversely affect listed Snake River steelhead (*Oncorhynchus mykiss*) or its critical habitat. NMFS is consulting on this action under the authority of section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402, and section 305 (b)(2) of the Magnuson-Stevens Act and its implementing regulations, 50 CFR Part 600.

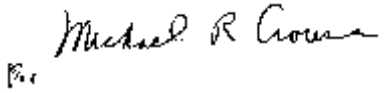
Subsequent to the receipt of the BA, the Clearwater River drainage was designated as essential fish habitat (EFH) for Pacific salmon. NMFS accepted the analysis in the BA of potential effects of the action on critical habitat for steelhead as an assessment of potential effects on EFH, because designated critical habitat for steelhead completely overlaps EFH for chinook and coho salmon in the Clearwater River drainage, and the effects of the action on steelhead habitat are virtually the same as effects on salmon habitat. Consequently, the BA was considered documentation that the proposed action may adversely effect salmon EFH.

The enclosed Opinion constitutes formal ESA section 7 consultation for Snake River steelhead and EFH consultation for chinook and coho salmon. The document includes analysis supporting NMFS' section 7 determination, an incidental take statement, and EFH consultation for the proposed action. Pursuant to ESA consultation, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of Snake River steelhead or result in the destruction or adverse modification of its critical habitat. Pursuant to EFH consultation NMFS concludes that the proposed action may

adversely affect salmon EFH.
The Opinion includes reasonable and prudent measures to avoid or minimize take, and mandatory terms and conditions to implement those measures. The reasonable and prudent measures also serve as EFH conservation recommendations for the proposed action. Because the EFH consultation includes conservation recommendations, the Magnuson-Stevens Act requires a written response from the action agency (CNF), describing how the conservation recommendations will be addressed (section 305(b)(4)(b) of the Magnuson-Stevens Act). However, the requirement for a written response is waived because the conservation recommendations are fully explained in the Opinion and they are mandatory action under the terms and conditions of the Opinion.

If you have any questions, please contact Bob Ries at (208) 882-6148.

Sincerely,



Donna Darm
Acting Regional Administrator

Enclosure

cc: B. Ruesink - USFWS
Plum Creek Timber Company

Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

and

Magnuson-Stevens Act -
Essential Fish Habitat Consultation

Spruce Moose Right of Way and Timber Sale

Agency: U.S. Forest Service, Clearwater National Forest

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: _____

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I. BACKGROUND

The Clearwater National Forest (CNF) began informal discussions of the Spruce Moose Right of Way (ROW) and Timber Sale with National Marine Fisheries Service (NMFS) in early 1997. The CNF's Endangered Species Act (ESA) level 1 consultation team conducted a site visit of the project with Plum Creek Timber Company (PCTC) on September 11, 1997. The level 1 team received brief updates on this action in monthly meetings during 1997 and 1998, and discussed the action in detail in a November 17, 1998, meeting. Based partly on comments and questions provided in the November 17, 1998, meeting, the CNF developed a draft biological assessment (BA) of the effects of the action on ESA listed species. The draft BA was discussed in a
March 11, 1999, level 1 team meeting. The PCTC provided a March 18, 1999, letter to CNF to address some of the questions raised by the level 1 team. The level 1 team then provided a response and recommendations in an April 21, 1999, letter to CNF (CNF adopted the recommendations in this letter). The level 1 team agreed in a June 6, 1999, meeting that the BA was ready to be submitted for consultation. The CNF transmitted the BA and requested ESA consultation with a July 29, 1999, letter to NMFS. NMFS requested additional information on the proposed action (March 2, 2000, electronic mail from Ken Troyer, NMFS, to Pat Murphy, CNF); and CNF responded with a March 7, 2000, addendum to the BA.

A draft biological opinion (Opinion) was shared with CNF on June 6, 2000. Shortly thereafter, PCTC finished their Native Fish Habitat Conservation Plan (HCP). The HCP specified steps that PCTC would take to minimize and mitigate potential take from timber management activities, including activities that would occur as a result of the Spruce Moose ROW. The HCP was approved by the Services, and NMFS issued an incidental take permit to PCTC on November 20, 2000. The incidental take permit authorizes take of anadromous fish from PCTC management activities, including construction, maintenance and use of forest roads, timber harvest, site preparation, planting, and slash management. The effects of PCTC management activities covered under the HCP have been evaluated in the November 20, 2000, biological opinion for the incidental take permit. In keeping with ESA regulations (50 CFR 402), the effects of PCTC activities would thus generally be considered part of the environmental baseline in this Opinion. Where additional Federal authorization is required, however, as with CNF's issuance of the Spruce Moose ROW, the PCTC activities that are interrelated/interdependent with the ROW are considered part of the proposed action (refer to the Proposed Action section, below).

The action has now been reviewed by NMFS, as provided under section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402. The objective of this Opinion is to determine whether the Spruce Moose ROW and Timber Sale are likely to jeopardize the continued existence of ESA listed Snake River steelhead or result in the destruction or adverse modification of the species' designated critical habitat.

II. PROPOSED ACTION

The BA provides a detailed description of the proposed activities (refer to BA p. 4-8; March 7, 2000, BA addendum). The action is to be implemented over five to 10 years and is composed of activities in which the U.S. Forest Service (USFS) is directly involved, and interrelated/interdependent activities on PCTC lands.

A. Summary of USFS and Joint USFS/PCTC Activities

Briefly, the action includes:

1) timber harvest (primarily by helicopter) on approximately 231 acres of USFS lands, with PACFISH Riparian Habitat Conservation Areas[1] (RHCA);

2) construction of 1.7 miles of USFS/PCTC cost-share roads (use restrictions and other mitigation measures summarized in BA, p. 6-7; and in BA addendum) in areas not classified as unroaded under the definition in NMFS' 1998 biological opinion on USFS and Bureau of Land Management (BLM) Land and Resource Management Plans (LRMP);

3) watershed restoration actions involving primarily repairs of existing roads and addition of drainage structures at 86 sediment source/routing sites (August 1998 Spruce Moose Draft Environmental Impact Statement (DEIS), Appendix C);

4) placement of 150 pieces of large wood with root wads, mostly instream and unanchored and placed to not impede fish passage, over 1.5 miles in North Fork, South Fork, and mainstem Spruce Creeks;

5) silvicultural activities within and outside RHCAs, including thinning and planting, with all cut trees left in RCHAs;

6) surveys of six miles of USFS road in the Spruce Creek watershed, with a commitment to obliterate, close, or repair these roads during the next five years to reduce sediment delivery to Spruce Creek; and

7) a suite of measures for fuel handling and spill prevention/containment based on the plan developed in the CNF consultation with NMFS on the Goat Roost Road (June 7, 1994, letter from NMFS to CNF; plan summarized in Spruce Moose BA, Appendix F).

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[1] The RHCAs for key watersheds apply. Those minimum widths on each side of the streams are: 300 feet for fish-bearing streams,
150 feet for non fish-bearing perennial streams, and 100 feet for intermittent streams, landslide-prone areas, etc. (PACFISH p. C-9 and C-10). The action includes partial harvest on steep land types within some units; however, wet and unstable areas at risk of landslides will be avoided and buffered as required by PACFISH.

Those activities are described in detail in the BA, BA addendum, DEIS Appendix C, and the April 21, 1999, letter from the CNF level 1 team to the CNF's Lochsa District.

B. Summary of Interrelated/Interdependent Activities on PCTC Lands

The ESA implementing regulations require that section 7 consultation include an analysis of the effects of actions that are interrelated or interdependent with the Federal action (50 CFR 402.02). For the Spruce Moose proposal, CNF would construct a cost-share road with PCTC, enabling timber harvest activities on PCTC lands that would not otherwise occur. The activities PCTC proposes on its lands as a result of CNF's proposed road construction and ROW authorization are, therefore, interrelated and interdependent actions that must be evaluated through section 7 consultation. The PCTC provided CNF additional site-specific descriptions of their proposed activities, that are summarized in the DEIS and BA addendum. The CNF included these activities with the Federal action in the effects analysis outlined in the BA. Briefly PCTC plans the following on its lands:

1) timber harvest on 721 acres of PCTC lands following the requirements of the Idaho Forest Practices Act, and meeting additional requirements Idaho has adopted regarding timber harvest in watersheds containing Clean Water Act (CWA) 303(d) Steam Segments of Concern[2];

2) construction of approximately 1.7 miles of road, with two stream crossings; and

3) reconstruction of 1.1 miles of road.

The CNF provided a summary table of the timber harvest activities on PCTC lands (BA addendum). The table indicates proposed PCTC harvest and roading are not known to be on landslide-prone land types. Site specific information was not provided in the BA regarding the presence of wet and other unstable areas on steep terrain within these land types, and how PCTC may adjust management if these sites are present.

The CNF also noted that PCTC activities are somewhat open-ended in that the proposed cost-share road agreement entitles PCTC to use the road for any future activities on its land without further authorizations from CNF. Such future activities are also covered by the HCP, and would be subject to the terms of the cost-share agreement/easement, such as road maintenance and use requirements, and prohibition of activities that result in damage to CNF lands or resources (BA addendum, and March 13, 2000, electronic mail communication from Pat Murphy, CNF, to Ken Troyer, NMFS).

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[2] The state of Idaho requirements for PCTC harvest in this watershed are: a 75-foot stream protection zone (SPZ, within which harvest is allowed under several specific restrictions) along fish-bearing streams; a 50-foot SPZ for non fish-bearing perennial streams; a requirement to retain 75% of the original level of shade on these streams; and other stipulations of the Idaho Forest Practices Act.

After the above elements of the proposed action were described, the PCTC activities became subject to additional and revised measures designed to minimize adverse effects to listed species and designated critical habitat. Those measures are described in the Plum Creek HCP and the Opinion for the incidental take permit issued to PCTC. Those measures include additional restrictions related to timber harvest adjacent to streams, activities on unstable lands, sediment reduction from roads, etc. In the Opinion on the HCP, NMFS determined that PCTC activities that follow the terms of the HCP would adequately minimize take of listed species. For this Opinion on the Spruce Moose ROW, NMFS assumes that PCTC will follow the stipulations of the HCP, therefore, further analysis of effects of the interrelated or interdependent activities associated with the Spruce Moose ROW is not required in this Opinion. This Opinion focuses, instead, on the additional effects of USFS actions and actions shared by USFS and PCTC (e.g. the cost-share road) for the Spruce Moose ROW (refer to the Effects section, below).

NMFS notes that Spruce Moose ROW complies with recent policy guidance for ROWs. Recent policy guidance, issued jointly by the Departments of Agriculture, Commerce, and Interior on January 19, 2001, stipulates that non-Federal land owners provide evidence of their coordination with the Services to ensure that unauthorized take does not occur from interrelated or interdependent actions on non-Federal lands. Suitable mechanisms include a non-take agreement or statement, incidental take permit issued under section 10(a)(1) of the ESA, or a completed section 7 consultation for another Federal action covering the same effects. The November 20, 2000, incidental take permit for the Plum Creek HCP covers PCTC timber harvest related activities including those that are interrelated/interdependent with the Spruce Moose ROW.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

Snake River steelhead are listed under the ESA, and occur within the action area of the Spruce Moose Project. The action area is defined (50 CFR 402.02) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The proposed activities have the potential primarily to add sediment, and possibly increase water temperature or add toxins (fuel), in the Spruce Creek watershed. Those effects may also be translated downstream into Brushy Fork Creek, Crooked Fork, and the Lochsa River. Designated critical habitat for Snake River fall chinook salmon (58 FR 68543; December 28, 1993) occurs in the Clearwater River below Lolo Creek, approximately 100 miles downstream from the proposed action. The CNF determined the proposed action would have no effect on ESA listed fall chinook salmon or their critical habitat; therefore, this Opinion does not include fall chinook salmon.

Detailed biological information for Snake River steelhead is provided in NMFS' status review of west coast steelhead (Busby et al. 1996). The CNF BA provides additional biological information for the species in the action area. Briefly, migrating adult Snake River steelhead arrive in the upper mainstem Clearwater River in September and October, and overwinter in the upper mainstem and Middle Fork

Clearwater River. Spawning and incubation occurs in the Lochsa River and tributaries such as Spruce Creek during March through July. Steelhead juveniles then typically rear for two to three years in the tributaries and larger rivers before beginning a seaward migration during February - May. Steelhead then usually spend two years in the ocean before beginning their spawning migration. Wild and naturally-reproducing stocks of steelhead have declined dramatically to currently low levels in the interior Columbia River Basin, due to a variety of factors including habitat degradation (Busby et al. 1996; Lee et al. 1997; Meehan and Bjornn 1991; NMFS 1991; NMFS 1996a; and *U.S. v Oregon* Technical Advisory Committee 1998).

Designated critical habitat for listed steelhead encompasses streams that are currently and historically accessible to the species, which includes Spruce Creek and portions of its tributaries (50 CFR Part 226, February 16, 2000). Essential features of steelhead critical habitat include adequate substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions (Busby et al. 1996; 62 FR 43937, August 18, 1997; 65 FR 7764, February 16, 2000; Spence et al. 1996). The essential features of critical habitat and related habitat characteristics are included in the NMFS document (hereafter referred to as NMFS' matrix) for making effects determinations at the watershed scale (NMFS 1996b). The CNF used the NMFS matrix to evaluate baseline condition, and effects of the action on essential habitat features for Snake River steelhead.

IV. ENVIRONMENTAL BASELINE

To determine the effects of the proposed action, NMFS first examines the environmental baseline, which consists of existing conditions and anticipated conditions from effects of activities that have undergone previous section 7 consultation. Of particular importance are instream and riparian elements that provide key habitat components for listed steelhead and could be affected by the action. NMFS focuses primarily on the existing conditions in Spruce Creek and its tributaries streams where the proposed activities would likely have their greatest effect, and from which effects could be translated downstream. The BA summarized the environmental baseline and effects within Spruce Creek, and in Brushy Fork Creek, which is immediately downstream of Spruce Creek. As noted above, CNF used NMFS' matrix to describe baseline conditions and estimate effects of the action at the watershed scale on essential features of steelhead habitat (NMFS 1996b; with local revisions for CNF and adjacent management units, March 12, 1998).

Potential changes to the environmental baseline from PCTC activities were described in the November 20, 2000, biological opinion for the Plum Creek HCP. The majority of spawning and rearing areas for steelhead are located on Forest Service lands, however, PCTC activities could have a strong influence on fish habitat in the Brushy Fork drainage, which is an important stream for steelhead production. A natural barrier in Lower Spruce Creek limits steelhead passage in Spruce Creek, and is likely a complete barrier to chinook salmon passage. Road-related sediment and elevated stream temperatures

are the primary factors affecting steelhead habitat in the Lochsa River basin, and reduced large woody debris (LWD) is a factor in portions of the Lochsa River basin. The HCP commitments (e.g. deferred riparian timber harvest, road closures, accelerated road upgrades, landslide hazard assessment, riparian harvest restrictions) were established in the Lochsa River drainage to maximize sediment reduction and to increase stream shading. Most of the riparian areas on PCTC lands in the Lochsa River drainage have been harvested in recent decades, and are currently in an improving trend. Under the terms of the HCP, riparian timber harvest is deferred in the Lochsa River basin until 2010, but harvest outside riparian zones is permitted during this time. The primary effect of PCTC activities on designated critical habitat for steelhead is through their influence on amount of LWD, water temperature, peak flows, and sediment. Overall habitat quality in the Lochsa River drainage is expected to be maintained or improved from the HCP commitments, primarily though increasing tree size and density in riparian stands that were harvested in the past, and through substantial reductions in road-related sediment from road improvements and closures. At the Lochsa River basin scale, the habitat improvements from the HCP are anticipated to more than offset future harvest and road construction over the 30 year permit period, however, at finer scales, localized declines in habitat quality are expected where riparian harvest or new road construction occur.

Detailed information on environmental baseline conditions in Spruce and Brushy Fork Creeks is found in the matrices (BA Appendices A and B). The matrices catalogue existing conditions for 25 habitat indicators, and three indicators of existing potential for direct take (e.g., access to spawning steelhead and redds which could result in direct harm to individual listed fish) in each watershed. Both Spruce and Brushy Fork Creeks watersheds are of particular importance for the survival and recovery of listed steelhead, as they have been designated as priority watersheds for steelhead through the ESA consultation on USFS/BLM LRMPs (NMFS 1998 LRMP Opinion [NMFS 1998]; January 15, 1999, letter from Gordon Haugen, USFS, to Ted Meyers, NMFS). Both of these streams provide spawning and rearing habitat for listed steelhead.

Brushy Fork Creek is currently part of a steelhead supplementation study by the National Biological Survey and other cooperators. In Spruce Creek, which is the Brushy Fork tributary where the proposed action would occur, the BA and addendum describe relatively low abundance of steelhead, especially above a small bedrock falls one mile upstream from the mouth of Spruce Creek. The BA addendum notes that juvenile rainbow trout/steelhead were not found above this falls in a 1993 survey, but were found above the falls (in North Fork Spruce Creek) in moderate densities (8-13/100m^2) in a 1997 survey. It is possible that variations in spring flows allow adult steelhead to negotiate the falls and spawn upstream in some years and not others.

The matrix for Spruce Creek shows stream conditions markedly affected by current and past land management activities. Spruce Creek and the lower reaches of North and South Fork Spruce Creeks are primarily low gradient streams that meander through relatively flat valley bottoms. Valley bottom roading, harvest of riparian areas, removal of wood from the stream, and other timber harvest practices over the past 40-50 years have degraded important fish habitat components of Spruce Creek. The BA

notes that glacial-origin parent geology and low hydrologic energy of this watershed, combined with erosion and loss of stable large wood due to management activities, have caused substantial accumulation of sediment in the substrate. The CNF found cobble embeddedness and surface fine sediment averaged 44% and 29%, and rated low and moderate condition, respectively, in the matrix. Various studies show that salmonid production in the incubation and early rearing life history phases is significantly reduced with increases in substrate sedimentation (Stowell et al. 1983; Tappel and Bjornn 1983; Chapman and McLeod 1987; Burton et al. 1993). The potential for this stream to produce steelhead has also been reduced in other ways, as evidenced by the low ratings in the matrix for large wood and pool frequency.

Brushy Fork Creek below Spruce Creek is a larger, less energy–limited, but still relatively low gradient stream. Impacts from land management activities are evident; however, substrate conditions for steelhead production are better (19% cobble embeddedness; 11.8% surface fines) than in Spruce Creek. Pool frequency and quality, however, were rated moderate and low, respectively, in the matrix.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The methods NMFS uses for analyzing effects and determining if proposed actions will likely jeopardize the continued existence of the species or destroy/adversely modify designated critical habitat are described in NMFS' "Habitat Approach" document (attachment 1). Briefly, NMFS evaluates the effects of proposed actions on listed salmon and steelhead in the context of the status of the species and their habitats. For individual or grouped actions that may affect the species' habitat, NMFS uses the matrix (NMFS 1996b) to evaluate effects on specific habitat elements (comprising essential features of steelhead habitat, as noted above) within a watershed. To avoid jeopardy and destruction/adverse modification of critical habitat for listed Snake River steelhead and salmon, actions generally must cause no more than minimal amounts of take of the species, and also must restore, maintain, or at least not appreciably interfere with the recovery of the properly functioning condition (PFC) of the various fish habitat elements within a watershed (refer to attachment 1).

The BA provides a detailed analysis of the effects of the proposed action on steelhead and their habitat in the action area. The analysis is centered on application of NMFS' matrices for Spruce and Brushy Fork Creeks. In reviewing these matrices and accompanying narratives in the BA, NMFS focuses particularly on the elements of the proposed action that have the potential to affect the fish or specific components of their habitat.

As noted in the Environmental Baseline (section IV, above), substrate conditions (percent cobble embeddedness and percent surface fine sediment) are considered low to moderate in Spruce Creek, and moderate in Brushy Fork Creek compared to estimated natural condition. The CNF estimated

cobble embeddedness at 44%, and surface fine sediment at 29% in Spruce Creek. Cobble embeddedness in Brushy Fork Creek below Spruce Creek was estimated at 19%, and percent surface fines at 11.8%. Existing substrate conditions in Spruce Creek, in particular, may limit steelhead production. Fine sediment deposited in stream substrates is directly related to salmonid egg-to-fry survival. As fine sediment increases above approximately 19%, egg-to-fry survival starts to decline (Stowell et al. 1983). As fine sediment reaches 30%, egg-to-fry survival declines rapidly (Tappel and Bjornn 1983; Chapman and McLeod 1987; Burton et al. 1993). As sediment becomes deposited in interstitial spaces, rearing habitat for juvenile salmonids is also reduced.

Aspects of the proposed action which may cause sediment delivery to Spruce and Brushy Fork Creeks include: (1) timber harvest, particularly where activities contribute to Equivalent Clearcut Area (ECA) greater than 15% in Spruce Creek (threshold of concern outlined in McCammon 1993 and guideline in NMFS' 1995 LRMP Opinion [NMFS 1995]); (2) construction of 1.7 miles of road; (3) use of the new and existing roads for harvest activities; and, (4) road repair activities at 86 sites. The road repairs are designed to reduce sediment production and delivery to streams, although ground disturbance associated with these repairs may increase sediment delivery immediately following the repairs. The proposed action includes measures (described in the four paragraphs below) to minimize sediment delivery from each of the activities listed above.

Sedimentation from timber harvest on USFS lands should generally be minimized by applying interim PACFISH RHCAs, and primarily helicopter yarding. The proposed action would also increase ECA from 16% to 16.3% in North Fork Spruce Creek, and from 15.2% to 15.6% in Spruce Creek as a whole. While this exceeds a general threshold of concern at 15% ECA, the BA predicts negligible change in peak flow, and negligible effect on streams, based on both peak flow and channel type information (BA, Appendix H).

Road construction includes 1.7 miles of cost-share road on USFS and PCTC lands. The BA (p. 6-7) lists a suite of mitigation measures designed to minimize sediment delivery from the cost-share road. Use of new and existing roads, especially for log haul with wet road conditions, may cause sediment movement from the road into streams in the action area. Mitigation measures described in the BA, particularly graveling the stream crossings and crossing approaches of the cost-share road, assist in minimizing this effect. The PCTC also agreed to not use the road for log haul for the first two runoff seasons after construction, to allow the road to stabilize and road perimeter vegetation to become established. Further, the CNF adopted wet season use mitigations proposed in a March 18, 1999, letter from PCTC to CNF. The mitigation measures were refined in an April 21, 1999, letter from the CNF level 1 team to CNF (adoption of these measures clarified in BA Addendum), and were to be further refined in summer 2000 discussions between CNF and PCTC (June 26, 2000, electronic mail communication from Pat Murphy, CNF, to Ken Troyer, NMFS).

Proposed road and drainage repairs at 86 sediment source sites are designed by PCTC and USFS. Fourteen of the 86 road repair locations are on Federal land, and the remainder are on PCTC land.

The road repair actions on PCTC lands are stipulated in the ROW permit, therefore, the effects are considered part of the ROW. Future road repairs on PCTC lands are covered under the HCP. The road repairs are expected to provide sediment reduction that is several-fold greater than sediment production from the proposed action (see discussion below). Construction activities, such as culvert replacements, at these sites may, however, deliver sediment during the period shortly after construction. This effect should be minimized by the proposed application of various erosion control measures and a dry-season work period.

Considering sediment production/reduction from the proposed action overall, the matrices, narratives, and appendices in the BA provide rationale for CNF's prediction that Spruce Moose Project activities will reduce existing levels of sediment delivery to Spruce Creek, and therefore to Brushy Fork Creek. NMFS' primary concern was sediment delivery in North Fork Spruce Creek, where the USFS and PCTC road and harvest activities would be concentrated. Sediment modeling by CNF shows sediment production in North Fork Spruce Creek would be less than 7.5 tons/year, and sediment reduction of approximately three times that amount. The net effect in North Fork Spruce Creek would be a reduction in existing sediment delivery by as much as 17 tons/year. An additional, but as yet unquantified, sediment reduction is expected from CNF's commitment to survey, and take actions needed to eliminate or reduce existing sediment delivery from six miles of road in the Spruce Creek watershed over the next five years.

Other concerns in this watershed related to the proposed action involve stream temperatures, pool frequency, and the potential for introduction of toxins to streams. The BA indicates existing stream temperatures for steelhead are moderate (57-64°F migration/rearing) and low (>64°F migration/rearing) condition in Spruce and Brushy Fork Creeks, respectively. The proposed action is, however, estimated to have negligible effect on instream temperature, given the application of PACFISH RHCAs on USFS harvest units (expected to maintain 100% of temperature function). The BA indicates existing pool frequency is moderate in both Spruce and Brushy Fork Creeks. The proposed action is expected to increase this frequency somewhat both through the maintenance of adequate riparian buffers for large wood delivery functions, and through placement of large wood with root wads over 1.5 miles of steelhead habitat. NMFS was also concerned about the handling of toxic materials (especially helicopter fuels) for the proposed activities. The CNF's suite of measures for fuel handling and spill prevention/containment (BA, Appendix F) appear to be adequate to minimize this risk.

In summary, CNF analyzed potential mechanisms of effect on listed steelhead and designated critical habitat using NMFS' matrix, and applied mitigation measures accordingly to minimize those effects. The action is expected to minimize and counterbalance sediment delivery by incorporating: (1) PACFISH RHCAs on CNF harvest units; (2) a suite of mitigation measures designed to minimize sediment delivery from road construction and use; (3) repairs of 86 sites of sediment delivery from existing roads (including erosion control measures and timing to reduce sediment delivery in the short term) estimated to provide approximately three-fold more sediment reduction than production from the

new land disturbance; and, (4) additional unquantified sediment reduction from CNF's commitment to survey, and take actions needed to eliminate or reduce existing sediment delivery from six miles of road in the Spruce Creek watershed over the next five years.

Further, the action is expected to: (1) have negligible effect on stream temperatures in steelhead habitat; (2) have a positive effect on pool frequency in North Fork Spruce, South Fork Spruce, and Spruce Creeks, and (3) adequately minimize the risk of introducing toxins (e.g. petroleum products) into streams in the action area.

B. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future state and private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The area in which the Spruce Moose Project would occur includes a checkerboard (alternating square mile sections) of PCTC lands and lands administered by CNF. Foreseeable activities on PCTC lands in the action area are covered by the Plum Creek HCP, and the effects have been incorporated into the environmental baseline considered in this Opinion. The effects of PCTC activities that would not occur without the proposed ROW are considered part of the proposed action in this Opinion (refer to the Background and Proposed Action sections, above). However, effects of PCTC activities are not analyzed further in this Spruce Moose Opinion because they were evaluated in the November 20, 2000, Opinion for the HCP. Since there are no other non-Federal lands in the action area, all foreseeable future activities (within the 30 year permit period of the HCP) are expected to be covered by the Plum Creek HCP, or they will be subject to section 7 consultation.

VI. CONCLUSION

NMFS has determined that, based on the available information, the Spruce Moose Project is not likely to jeopardize the continued existence of Snake River steelhead or result in the destruction or adverse modification of designated critical habitat. This conclusion is based on analysis of effects of the action on steelhead and essential features of designated critical habitat (encompassed in NMFS' matrix) considering environmental baseline conditions and cumulative effects of foreseeable non-Federal actions. Specifically, the conclusion is based primarily on measures to minimize sediment delivery from the new land disturbances and to offset this effect approximately three-fold by reducing sediment delivery from existing sources (see summary at the end of "Effects of the Proposed Action" section, above). The conclusion is also based on components of the action (summarized above and in the BA) and commitments in the Plum Creek HCP that are expected to result in negligible or beneficial effects on other components of steelhead habitat, including water temperature, other elements of water quality, and pool-forming instream large wood. The NMFS' conclusion also assumes that future PCTC actions

will continue to be conducted under the terms of the HCP, resulting in improved riparian habitat function and sediment reductions.

VII. CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NMFS believes the conservation recommendations listed below are consistent with these obligations, and therefore should be implemented by the CNF.

1) The CNF should conduct an Ecosystem Analysis at the Watershed Scale (EAWS) of Brushy Fork Creek per the current interagency EAWS Guide and incorporating the Roads Analysis process referenced in the December, 2000, Interior Columbia Basin Ecosystem Management Project (ICBEMP) Final Environment Impact Statement (FEIS).

2) The CNF should coordinate with PCTC to develop joint standards and guidelines for designing/timing activities in Spruce Creek to minimize effects on peak flow and stream channel alterations related to increases in peak flow.

3) The CNF should coordinate with PCTC to develop joint guidelines for designing/timing activities in Spruce Creek to minimize land management related sediment delivery to near-natural levels.

VIII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: (1) the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; (2) new information reveals that the action may affect listed species or their designated critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a way that causes an effect on listed species that was not previously considered; (4) repairs/sediment reduction measures are not completed at the 86 sediment source sites; or (5) the Plum Creek HCP is suspended or terminated before the 30-year term.

IX. MAGNUSON-STEVENS FISHERY CONSERVATION and MANAGEMENT ACT

A. Background

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Act (MSA) to establish new requirements for essential fish habitat (EFH). The new regulations require designation of EFH in Federal fishery management plans, and Federal agencies are required to consult with NMFS on activities that may adversely affect EFH. The EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3)." The Pacific Fisheries Management Council (PFMC) has designated EFH for Federally managed groundfish, and coastal pelagic and Pacific salmon fisheries. The EFH for the groundfish and coastal pelagic fisheries are marine designations, while the Pacific salmon EFH includes freshwater, marine, and estuarine environments.

The MSA requires consultation for all actions that may adversely affect EFH, and it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location. The consultation requirements of section 305(b) of the MSA [16 U.S.C. 1855(b)] provide that:

> 1) Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
>
> 2) NMFS shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH.

Federal agencies shall, within 30 days after receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

B. Pacific Coast Salmon and Essential Fish Habitat Affected by the Proposed Action

The Pacific Coast Salmon Fishery Management Plan (FMP) was approved by the Secretary of Commerce on September 27, 2000. Pacific salmon species covered in the FMP are coho salmon (*Oncorhynchus kisutch*), chinook salmon (*O. tshawytscha*), and pink salmon (*O. gorbuscha*). The FMP designates EFH for the Pacific salmon fishery as all those streams, lakes, ponds, wetlands, and other waterbodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above certain impassable barriers identified by PFMC, or above longstanding naturally impassable barriers (i.e., natural waterfalls in existence for several hundred years). Activities

occurring above impassable barriers that are likely to adversely affect EFH are subject to the consultation provisions of the Magnuson-Stevens Act. The Lochsa River drainage, where the proposed action would occur, is designated EFH for chinook salmon, including unlisted stocks of hatchery origin.

C. Summary of Proposed Action

The proposed action is described above (see Proposed Action, section II).

D. Effects of the Proposed Action on EFH

1. General Considerations

This Opinion discusses the direct, indirect, and cumulative effects of the proposed action on listed Snake River steelhead and designated critical habitat for steelhead, pursuant to section 7 of the ESA. The effects are summarized, above, in section IV, "Analysis of Effects." Since designated critical habitat for Snake River steelhead in the Lochsa River drainage is identical to the area designated as EFH for chinook salmon, for EFH analysis, potential adverse effects on designated critical habitat for ESA-listed species and EFH MSA-managed species are considered to be functionally equivalent. Effects on salmon EFH would be the same as those described for steelhead designated critical habitat in this Opinion.

2. Estuary and Nearshore EFH

Estuary and nearshore EFH is not affected by the proposed action because the proposed action is several hundred miles inland, and relatively small in scope.

3. Coastal Pelagic EFH

Coastal pelagic EFH is not affected by the proposed action because the proposed action is several hundred miles inland, and relatively small in scope.

4. Salmon EFH

The BA determined that the proposed action was likely to have adverse effects on salmonid habitat and designated critical habitat. Likewise, the proposed action is likely to have adverse on salmon EFH.

The potential adverse effects of the proposed action on critical habitat are discussed, above, in section II, "Analysis of Effects."

Chinook salmon are not listed under the ESA in the action area, but unlisted chinook salmon are known to occur there. The Nez Perce Tribe has recently undertaken efforts to reintroduce chinook salmon in the upper Lochsa River drainage, and chinook salmon densities have increased in recent years. Chinook salmon are found in relatively high densities in Brushy Fork, compared to other tributaries to the Lochsa River. Potential spawning areas for chinook are limited in the Spruce Creek drainage, due to steepness and a passage barrier near the mouth, but there is a high concentration of chinook salmon spawning that occurs downstream, in Brushy Fork. The effects of the proposed action on chinook salmon spawning habitat are similar to those described in this Opinion for Snake River steelhead, although steelhead spawning areas also occur further upstream than areas used by chinook.

E. Conclusion

Based on the findings in the ESA analyses, NMFS believes that the proposed action may adversely affect designated EFH for chinook salmon. However, potential adverse effects are reduced through measures to minimize sediment delivery from the new land disturbances and measures to more than offset this effect by reducing sediment delivery from existing sources (see summary at the end of "Effects of the Proposed Action" section, above), and by the provisions of the Plum Creek HCP.

F. EFH Conservation Recommendations

Conservation recommendations are discretionary measures suggested to avoid, minimize, or otherwise offset adverse modification of EFH, or to develop additional information. This Opinion includes ESA Conservation Recommendations, Reasonable and Prudent measures, and Terms and Conditions that serve the purpose of EFH conservation recommendations, and therefore, are hereby incorporated by reference, as EFH conservation recommendations.

G. Statutory Requirements

The MSA and Federal implementing regulations (50 CFR Section 600.920) require Federal Action Agencies to provide a written response to EFH Conservation Recommendations within 30 days of receipt.

H. Consultation Renewal

NMFS will reinitiate internal EFH consultation if the action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR Section 600.920 [k]).

IX. REFERENCES

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X. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR Part 222, November 8, 1999). Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary; they must be implemented by the CNF so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The CNF has a continuing duty to regulate the activity covered in this incidental take statement. If the CNF (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

NMFS finds the proposed action has a very low risk of causing take of listed salmon or steelhead. NMFS cannot quantify the take which may occur from the proposed action. NMFS does, however, with this Opinion, authorize a very low level of take which may occur from Federal activities. Any take that may occur from PCTC activities has been previously authorized in the incidental take permit for the HCP. To ensure that take, if it does occur, is kept to a very low level, NMFS developed the reasonable and prudent measures and terms and conditions described below.

B. Reasonable and Prudent Measures

NMFS determines that the following reasonable and prudent measures are necessary and appropriate to minimizing take of listed salmon and steelhead:

1) The CNF will ensure that repairs of roads and culverts are completed at the 86 sediment source sites described in the BA.

2) The CNF will monitor the application of the proposed wet season road use restrictions and report the results to NMFS.

3) The CNF will ensure, through conditioning of the ROW permit, that PCTC will follow the requirements of the Plum Creek HCP in conducting activities that are interrelated/interdependent with the ROW.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the CNF must comply with the terms and conditions listed below, which implement the reasonable and prudent measures. These terms and conditions are non-discretionary.

1) The CNF will include in the ROW permit a condition requiring completion of the 86 sediment source repairs. If these actions are not completed within five years (October 1, 2006), the ROW permit will become invalid.

2) The CNF will include in the ROW permit the wet season road use restrictions outlined in the March 18, 1999, letter from PCTC to CNF, refined in an April 21, 1999, letter from the CNF Level 1 Team to CNF, and further refined in summer 2000 discussions between PCTC and CNF. The ROW permit will become invalid if seasonal use restrictions are not followed by PCTC or their contractors. CNF will report to NMFS within 5 days any instances where the requirements were not met.

3) The CNF will include in the ROW permit a condition that the ROW is contingent on PCTC adherence to the stipulations of the HCP. If the HCP requirements are not met, or if the HCP is relinquished or revoked in the Spruce Creek drainage, the ROW permit becomes invalid.

Endangered Species Act - Section 7
Consultation

BIOLOGICAL OPINION

and

Magnuson-Stevens Act -
Essential Fish Habitat Consultation

Spruce Moose Right of Way and Timber Sale

Agency: U.S. Forest Service, Clearwater National Forest

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: _____

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I. BACKGROUND

The Clearwater National Forest (CNF) began informal discussions of the Spruce Moose Right of Way (ROW) and Timber Sale with National Marine Fisheries Service (NMFS) in early 1997. The CNF's Endangered Species Act (ESA) level 1 consultation team conducted a site visit of the project with Plum Creek Timber Company (PCTC) on September 11, 1997. The level 1 team received brief updates on this action in monthly meetings during 1997 and 1998, and discussed the action in detail in a November 17, 1998, meeting. Based partly on comments and questions provided in the November 17, 1998, meeting, the CNF developed a draft biological assessment (BA) of the effects of the action on ESA listed species. The draft BA was discussed in a
March 11, 1999, level 1 team meeting. The PCTC provided a March 18, 1999, letter to CNF to address some of the questions raised by the level 1 team. The level 1 team then provided a response and recommendations in an April 21, 1999, letter to CNF (CNF adopted the recommendations in this letter). The level 1 team agreed in a June 6, 1999, meeting that the BA was ready to be submitted for consultation. The CNF transmitted the BA and requested ESA consultation with a July 29, 1999, letter to NMFS. NMFS requested additional information on the proposed action (March 2, 2000, electronic mail from Ken Troyer, NMFS, to Pat Murphy, CNF); and CNF responded with a March 7, 2000, addendum to the BA.

A draft biological opinion (Opinion) was shared with CNF on June 6, 2000. Shortly thereafter, PCTC finished their Native Fish Habitat Conservation Plan (HCP). The HCP specified steps that PCTC would take to minimize and mitigate potential take from timber management activities, including activities that would occur as a result of the Spruce Moose ROW. The HCP was approved by the Services, and NMFS issued an incidental take permit to PCTC on November 20, 2000. The incidental take permit authorizes take of anadromous fish from PCTC management activities, including construction, maintenance and use of forest roads, timber harvest, site preparation, planting, and slash management. The effects of PCTC management activities covered under the HCP have been evaluated in the November 20, 2000, biological opinion for the incidental take permit. In keeping with ESA regulations (50 CFR 402), the effects of PCTC activities would thus generally be considered part of the environmental baseline in this Opinion. Where additional Federal authorization is required, however, as with CNF's issuance of the Spruce Moose ROW, the PCTC activities that are interrelated/interdependent with the ROW are considered part of the proposed action (refer to the Proposed Action section, below).

The action has now been reviewed by NMFS, as provided under section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402. The objective of this Opinion is to determine whether the Spruce Moose ROW and Timber Sale are likely to jeopardize the continued existence of ESA listed Snake River steelhead or result in the destruction or adverse modification of the species' designated critical habitat.

II. PROPOSED ACTION

The BA provides a detailed description of the proposed activities (refer to BA p. 4-8; March 7, 2000, BA addendum). The action is to be implemented over five to 10 years and is composed of activities in which the U.S. Forest Service (USFS) is directly involved, and interrelated/interdependent activities on PCTC lands.

A. Summary of USFS and Joint USFS/PCTC Activities

Briefly, the action includes:

1) timber harvest (primarily by helicopter) on approximately 231 acres of USFS lands, with PACFISH Riparian Habitat Conservation Areas[1] (RHCA);

2) construction of 1.7 miles of USFS/PCTC cost-share roads (use restrictions and other mitigation measures summarized in BA, p. 6-7; and in BA addendum) in areas not classified as unroaded under the definition in NMFS' 1998 biological opinion on USFS and Bureau of Land Management (BLM) Land and Resource Management Plans (LRMP);

3) watershed restoration actions involving primarily repairs of existing roads and addition of drainage structures at 86 sediment source/routing sites (August 1998 Spruce Moose Draft Environmental Impact Statement (DEIS), Appendix C);

4) placement of 150 pieces of large wood with root wads, mostly instream and unanchored and placed to not impede fish passage, over 1.5 miles in North Fork, South Fork, and mainstem Spruce Creeks;

5) silvicultural activities within and outside RHCAs, including thinning and planting, with all cut trees left in RCHAs;

6) surveys of six miles of USFS road in the Spruce Creek watershed, with a commitment to obliterate, close, or repair these roads during the next five years to reduce sediment delivery to Spruce Creek; and

7) a suite of measures for fuel handling and spill prevention/containment based on the plan developed in the CNF consultation with NMFS on the Goat Roost Road (June 7, 1994, letter from NMFS to CNF; plan summarized in Spruce Moose BA, Appendix F).

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[1] The RHCAs for key watersheds apply. Those minimum widths on each side of the streams are: 300 feet for fish-bearing streams,
150 feet for non fish-bearing perennial streams, and 100 feet for intermittent streams, landslide-prone areas, etc. (PACFISH p. C-9 and C-10). The action includes partial harvest on steep land types within some units; however, wet and unstable areas at risk of landslides will be avoided and buffered as required by PACFISH.

Those activities are described in detail in the BA, BA addendum, DEIS Appendix C, and the April 21, 1999, letter from the CNF level 1 team to the CNF's Lochsa District.

B. Summary of Interrelated/Interdependent Activities on PCTC Lands

The ESA implementing regulations require that section 7 consultation include an analysis of the effects of actions that are interrelated or interdependent with the Federal action (50 CFR 402.02). For the Spruce Moose proposal, CNF would construct a cost-share road with PCTC, enabling timber harvest activities on PCTC lands that would not otherwise occur. The activities PCTC proposes on its lands as a result of CNF's proposed road construction and ROW authorization are, therefore, interrelated and interdependent actions that must be evaluated through section 7 consultation. The PCTC provided CNF additional site-specific descriptions of their proposed activities, that are summarized in the DEIS and BA addendum. The CNF included these activities with the Federal action in the effects analysis outlined in the BA. Briefly PCTC plans the following on its lands:

1) timber harvest on 721 acres of PCTC lands following the requirements of the Idaho Forest Practices Act, and meeting additional requirements Idaho has adopted regarding timber harvest in watersheds containing Clean Water Act (CWA) 303(d) Steam Segments of Concern[2];

2) construction of approximately 1.7 miles of road, with two stream crossings; and

3) reconstruction of 1.1 miles of road.

The CNF provided a summary table of the timber harvest activities on PCTC lands (BA addendum). The table indicates proposed PCTC harvest and roading are not known to be on landslide-prone land types. Site specific information was not provided in the BA regarding the presence of wet and other unstable areas on steep terrain within these land types, and how PCTC may adjust management if these sites are present.

The CNF also noted that PCTC activities are somewhat open-ended in that the proposed cost-share road agreement entitles PCTC to use the road for any future activities on its land without further authorizations from CNF. Such future activities are also covered by the HCP, and would be subject to the terms of the cost-share agreement/easement, such as road maintenance and use requirements, and prohibition of activities that result in damage to CNF lands or resources (BA addendum, and March 13, 2000, electronic mail communication from Pat Murphy, CNF, to Ken Troyer, NMFS).

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[2] The state of Idaho requirements for PCTC harvest in this watershed are: a 75-foot stream protection zone (SPZ, within which harvest is allowed under several specific restrictions) along fish-bearing streams; a 50-foot SPZ for non fish-bearing perennial streams; a requirement to retain 75% of the original level of shade on these streams; and other stipulations of the Idaho Forest Practices Act.

After the above elements of the proposed action were described, the PCTC activities became subject to additional and revised measures designed to minimize adverse effects to listed species and designated critical habitat. Those measures are described in the Plum Creek HCP and the Opinion for the incidental take permit issued to PCTC. Those measures include additional restrictions related to timber harvest adjacent to streams, activities on unstable lands, sediment reduction from roads, etc. In the Opinion on the HCP, NMFS determined that PCTC activities that follow the terms of the HCP would adequately minimize take of listed species. For this Opinion on the Spruce Moose ROW, NMFS assumes that PCTC will follow the stipulations of the HCP, therefore, further analysis of effects of the interrelated or interdependent activities associated with the Spruce Moose ROW is not required in this Opinion. This Opinion focuses, instead, on the additional effects of USFS actions and actions shared by USFS and PCTC (e.g. the cost-share road) for the Spruce Moose ROW (refer to the Effects section, below).

NMFS notes that Spruce Moose ROW complies with recent policy guidance for ROWs. Recent policy guidance, issued jointly by the Departments of Agriculture, Commerce, and Interior on January 19, 2001, stipulates that non-Federal land owners provide evidence of their coordination with the Services to ensure that unauthorized take does not occur from interrelated or interdependent actions on non-Federal lands. Suitable mechanisms include a non-take agreement or statement, incidental take permit issued under section 10(a)(1) of the ESA, or a completed section 7 consultation for another Federal action covering the same effects. The November 20, 2000, incidental take permit for the Plum Creek HCP covers PCTC timber harvest related activities including those that are interrelated/interdependent with the Spruce Moose ROW.

III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

Snake River steelhead are listed under the ESA, and occur within the action area of the Spruce Moose Project. The action area is defined (50 CFR 402.02) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The proposed activities have the potential primarily to add sediment, and possibly increase water temperature or add toxins (fuel), in the Spruce Creek watershed. Those effects may also be translated downstream into Brushy Fork Creek, Crooked Fork, and the Lochsa River. Designated critical habitat for Snake River fall chinook salmon (58 FR 68543; December 28, 1993) occurs in the Clearwater River below Lolo Creek, approximately 100 miles downstream from the proposed action. The CNF determined the proposed action would have no effect on ESA listed fall chinook salmon or their critical habitat; therefore, this Opinion does not include fall chinook salmon.

Detailed biological information for Snake River steelhead is provided in NMFS' status review of west coast steelhead (Busby et al. 1996). The CNF BA provides additional biological information for the species in the action area. Briefly, migrating adult Snake River steelhead arrive in the upper mainstem Clearwater River in September and October, and overwinter in the upper mainstem and Middle Fork

Clearwater River. Spawning and incubation occurs in the Lochsa River and tributaries such as Spruce Creek during March through July. Steelhead juveniles then typically rear for two to three years in the tributaries and larger rivers before beginning a seaward migration during February - May. Steelhead then usually spend two years in the ocean before beginning their spawning migration. Wild and naturally-reproducing stocks of steelhead have declined dramatically to currently low levels in the interior Columbia River Basin, due to a variety of factors including habitat degradation (Busby et al. 1996; Lee et al. 1997; Meehan and Bjornn 1991; NMFS 1991; NMFS 1996a; and *U.S. v Oregon* Technical Advisory Committee 1998).

Designated critical habitat for listed steelhead encompasses streams that are currently and historically accessible to the species, which includes Spruce Creek and portions of its tributaries (50 CFR Part 226, February 16, 2000). Essential features of steelhead critical habitat include adequate substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions (Busby et al. 1996; 62 FR 43937, August 18, 1997; 65 FR 7764, February 16, 2000; Spence et al. 1996). The essential features of critical habitat and related habitat characteristics are included in the NMFS document (hereafter referred to as NMFS' matrix) for making effects determinations at the watershed scale (NMFS 1996b). The CNF used the NMFS matrix to evaluate baseline condition, and effects of the action on essential habitat features for Snake River steelhead.

IV. ENVIRONMENTAL BASELINE

To determine the effects of the proposed action, NMFS first examines the environmental baseline, which consists of existing conditions and anticipated conditions from effects of activities that have undergone previous section 7 consultation. Of particular importance are instream and riparian elements that provide key habitat components for listed steelhead and could be affected by the action. NMFS focuses primarily on the existing conditions in Spruce Creek and its tributaries streams where the proposed activities would likely have their greatest effect, and from which effects could be translated downstream. The BA summarized the environmental baseline and effects within Spruce Creek, and in Brushy Fork Creek, which is immediately downstream of Spruce Creek. As noted above, CNF used NMFS' matrix to describe baseline conditions and estimate effects of the action at the watershed scale on essential features of steelhead habitat (NMFS 1996b; with local revisions for CNF and adjacent management units, March 12, 1998).

Potential changes to the environmental baseline from PCTC activities were described in the November 20, 2000, biological opinion for the Plum Creek HCP. The majority of spawning and rearing areas for steelhead are located on Forest Service lands, however, PCTC activities could have a strong influence on fish habitat in the Brushy Fork drainage, which is an important stream for steelhead production. A natural barrier in Lower Spruce Creek limits steelhead passage in Spruce Creek, and is likely a complete barrier to chinook salmon passage. Road-related sediment and elevated stream temperatures

are the primary factors affecting steelhead habitat in the Lochsa River basin, and reduced large woody debris (LWD) is a factor in portions of the Lochsa River basin. The HCP commitments (e.g. deferred riparian timber harvest, road closures, accelerated road upgrades, landslide hazard assessment, riparian harvest restrictions) were established in the Lochsa River drainage to maximize sediment reduction and to increase stream shading. Most of the riparian areas on PCTC lands in the Lochsa River drainage have been harvested in recent decades, and are currently in an improving trend. Under the terms of the HCP, riparian timber harvest is deferred in the Lochsa River basin until 2010, but harvest outside riparian zones is permitted during this time. The primary effect of PCTC activities on designated critical habitat for steelhead is through their influence on amount of LWD, water temperature, peak flows, and sediment. Overall habitat quality in the Lochsa River drainage is expected to be maintained or improved from the HCP commitments, primarily though increasing tree size and density in riparian stands that were harvested in the past, and through substantial reductions in road-related sediment from road improvements and closures. At the Lochsa River basin scale, the habitat improvements from the HCP are anticipated to more than offset future harvest and road construction over the 30 year permit period, however, at finer scales, localized declines in habitat quality are expected where riparian harvest or new road construction occur.

Detailed information on environmental baseline conditions in Spruce and Brushy Fork Creeks is found in the matrices (BA Appendices A and B). The matrices catalogue existing conditions for 25 habitat indicators, and three indicators of existing potential for direct take (e.g., access to spawning steelhead and redds which could result in direct harm to individual listed fish) in each watershed. Both Spruce and Brushy Fork Creeks watersheds are of particular importance for the survival and recovery of listed steelhead, as they have been designated as priority watersheds for steelhead through the ESA consultation on USFS/BLM LRMPs (NMFS 1998 LRMP Opinion [NMFS 1998]; January 15, 1999, letter from Gordon Haugen, USFS, to Ted Meyers, NMFS). Both of these streams provide spawning and rearing habitat for listed steelhead.

Brushy Fork Creek is currently part of a steelhead supplementation study by the National Biological Survey and other cooperators. In Spruce Creek, which is the Brushy Fork tributary where the proposed action would occur, the BA and addendum describe relatively low abundance of steelhead, especially above a small bedrock falls one mile upstream from the mouth of Spruce Creek. The BA addendum notes that juvenile rainbow trout/steelhead were not found above this falls in a 1993 survey, but were found above the falls (in North Fork Spruce Creek) in moderate densities (8-13/100m^2) in a 1997 survey. It is possible that variations in spring flows allow adult steelhead to negotiate the falls and spawn upstream in some years and not others.

The matrix for Spruce Creek shows stream conditions markedly affected by current and past land management activities. Spruce Creek and the lower reaches of North and South Fork Spruce Creeks are primarily low gradient streams that meander through relatively flat valley bottoms. Valley bottom roading, harvest of riparian areas, removal of wood from the stream, and other timber harvest practices over the past 40-50 years have degraded important fish habitat components of Spruce Creek. The BA

notes that glacial-origin parent geology and low hydrologic energy of this watershed, combined with erosion and loss of stable large wood due to management activities, have caused substantial accumulation of sediment in the substrate. The CNF found cobble embeddedness and surface fine sediment averaged 44% and 29%, and rated low and moderate condition, respectively, in the matrix. Various studies show that salmonid production in the incubation and early rearing life history phases is significantly reduced with increases in substrate sedimentation (Stowell et al. 1983; Tappel and Bjornn 1983; Chapman and McLeod 1987; Burton et al. 1993). The potential for this stream to produce steelhead has also been reduced in other ways, as evidenced by the low ratings in the matrix for large wood and pool frequency.

Brushy Fork Creek below Spruce Creek is a larger, less energy–limited, but still relatively low gradient stream. Impacts from land management activities are evident; however, substrate conditions for steelhead production are better (19% cobble embeddedness; 11.8% surface fines) than in Spruce Creek. Pool frequency and quality, however, were rated moderate and low, respectively, in the matrix.

V. ANALYSIS OF EFFECTS

A. Effects of Proposed Action

The methods NMFS uses for analyzing effects and determining if proposed actions will likely jeopardize the continued existence of the species or destroy/adversely modify designated critical habitat are described in NMFS' "Habitat Approach" document (attachment 1). Briefly, NMFS evaluates the effects of proposed actions on listed salmon and steelhead in the context of the status of the species and their habitats. For individual or grouped actions that may affect the species' habitat, NMFS uses the matrix (NMFS 1996b) to evaluate effects on specific habitat elements (comprising essential features of steelhead habitat, as noted above) within a watershed. To avoid jeopardy and destruction/adverse modification of critical habitat for listed Snake River steelhead and salmon, actions generally must cause no more than minimal amounts of take of the species, and also must restore, maintain, or at least not appreciably interfere with the recovery of the properly functioning condition (PFC) of the various fish habitat elements within a watershed (refer to attachment 1).

The BA provides a detailed analysis of the effects of the proposed action on steelhead and their habitat in the action area. The analysis is centered on application of NMFS' matrices for Spruce and Brushy Fork Creeks. In reviewing these matrices and accompanying narratives in the BA, NMFS focuses particularly on the elements of the proposed action that have the potential to affect the fish or specific components of their habitat.

As noted in the Environmental Baseline (section IV, above), substrate conditions (percent cobble embeddedness and percent surface fine sediment) are considered low to moderate in Spruce Creek, and moderate in Brushy Fork Creek compared to estimated natural condition. The CNF estimated

cobble embeddedness at 44%, and surface fine sediment at 29% in Spruce Creek. Cobble embeddedness in Brushy Fork Creek below Spruce Creek was estimated at 19%, and percent surface fines at 11.8%. Existing substrate conditions in Spruce Creek, in particular, may limit steelhead production. Fine sediment deposited in stream substrates is directly related to salmonid egg-to-fry survival. As fine sediment increases above approximately 19%, egg-to-fry survival starts to decline (Stowell et al. 1983). As fine sediment reaches 30%, egg-to-fry survival declines rapidly (Tappel and Bjornn 1983; Chapman and McLeod 1987; Burton et al. 1993). As sediment becomes deposited in interstitial spaces, rearing habitat for juvenile salmonids is also reduced.

Aspects of the proposed action which may cause sediment delivery to Spruce and Brushy Fork Creeks include: (1) timber harvest, particularly where activities contribute to Equivalent Clearcut Area (ECA) greater than 15% in Spruce Creek (threshold of concern outlined in McCammon 1993 and guideline in NMFS' 1995 LRMP Opinion [NMFS 1995]); (2) construction of 1.7 miles of road; (3) use of the new and existing roads for harvest activities; and, (4) road repair activities at 86 sites. The road repairs are designed to reduce sediment production and delivery to streams, although ground disturbance associated with these repairs may increase sediment delivery immediately following the repairs. The proposed action includes measures (described in the four paragraphs below) to minimize sediment delivery from each of the activities listed above.

Sedimentation from timber harvest on USFS lands should generally be minimized by applying interim PACFISH RHCAs, and primarily helicopter yarding. The proposed action would also increase ECA from 16% to 16.3% in North Fork Spruce Creek, and from 15.2% to 15.6% in Spruce Creek as a whole. While this exceeds a general threshold of concern at 15% ECA, the BA predicts negligible change in peak flow, and negligible effect on streams, based on both peak flow and channel type information (BA, Appendix H).

Road construction includes 1.7 miles of cost-share road on USFS and PCTC lands. The BA (p. 6-7) lists a suite of mitigation measures designed to minimize sediment delivery from the cost-share road. Use of new and existing roads, especially for log haul with wet road conditions, may cause sediment movement from the road into streams in the action area. Mitigation measures described in the BA, particularly graveling the stream crossings and crossing approaches of the cost-share road, assist in minimizing this effect. The PCTC also agreed to not use the road for log haul for the first two runoff seasons after construction, to allow the road to stabilize and road perimeter vegetation to become established. Further, the CNF adopted wet season use mitigations proposed in a March 18, 1999, letter from PCTC to CNF. The mitigation measures were refined in an April 21, 1999, letter from the CNF level 1 team to CNF (adoption of these measures clarified in BA Addendum), and were to be further refined in summer 2000 discussions between CNF and PCTC (June 26, 2000, electronic mail communication from Pat Murphy, CNF, to Ken Troyer, NMFS).

Proposed road and drainage repairs at 86 sediment source sites are designed by PCTC and USFS. Fourteen of the 86 road repair locations are on Federal land, and the remainder are on PCTC land.

The road repair actions on PCTC lands are stipulated in the ROW permit, therefore, the effects are considered part of the ROW. Future road repairs on PCTC lands are covered under the HCP. The road repairs are expected to provide sediment reduction that is several-fold greater than sediment production from the proposed action (see discussion below). Construction activities, such as culvert replacements, at these sites may, however, deliver sediment during the period shortly after construction. This effect should be minimized by the proposed application of various erosion control measures and a dry-season work period.

Considering sediment production/reduction from the proposed action overall, the matrices, narratives, and appendices in the BA provide rationale for CNF's prediction that Spruce Moose Project activities will reduce existing levels of sediment delivery to Spruce Creek, and therefore to Brushy Fork Creek. NMFS' primary concern was sediment delivery in North Fork Spruce Creek, where the USFS and PCTC road and harvest activities would be concentrated. Sediment modeling by CNF shows sediment production in North Fork Spruce Creek would be less than 7.5 tons/year, and sediment reduction of approximately three times that amount. The net effect in North Fork Spruce Creek would be a reduction in existing sediment delivery by as much as 17 tons/year. An additional, but as yet unquantified, sediment reduction is expected from CNF's commitment to survey, and take actions needed to eliminate or reduce existing sediment delivery from six miles of road in the Spruce Creek watershed over the next five years.

Other concerns in this watershed related to the proposed action involve stream temperatures, pool frequency, and the potential for introduction of toxins to streams. The BA indicates existing stream temperatures for steelhead are moderate (57-64°F migration/rearing) and low (>64°F migration/rearing) condition in Spruce and Brushy Fork Creeks, respectively. The proposed action is, however, estimated to have negligible effect on instream temperature, given the application of PACFISH RHCAs on USFS harvest units (expected to maintain 100% of temperature function). The BA indicates existing pool frequency is moderate in both Spruce and Brushy Fork Creeks. The proposed action is expected to increase this frequency somewhat both through the maintenance of adequate riparian buffers for large wood delivery functions, and through placement of large wood with root wads over 1.5 miles of steelhead habitat. NMFS was also concerned about the handling of toxic materials (especially helicopter fuels) for the proposed activities. The CNF's suite of measures for fuel handling and spill prevention/containment (BA, Appendix F) appear to be adequate to minimize this risk.

In summary, CNF analyzed potential mechanisms of effect on listed steelhead and designated critical habitat using NMFS' matrix, and applied mitigation measures accordingly to minimize those effects. The action is expected to minimize and counterbalance sediment delivery by incorporating: (1) PACFISH RHCAs on CNF harvest units; (2) a suite of mitigation measures designed to minimize sediment delivery from road construction and use; (3) repairs of 86 sites of sediment delivery from existing roads (including erosion control measures and timing to reduce sediment delivery in the short term) estimated to provide approximately three-fold more sediment reduction than production from the

new land disturbance; and, (4) additional unquantified sediment reduction from CNF's commitment to survey, and take actions needed to eliminate or reduce existing sediment delivery from six miles of road in the Spruce Creek watershed over the next five years.

Further, the action is expected to: (1) have negligible effect on stream temperatures in steelhead habitat; (2) have a positive effect on pool frequency in North Fork Spruce, South Fork Spruce, and Spruce Creeks, and (3) adequately minimize the risk of introducing toxins (e.g. petroleum products) into streams in the action area.

B. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future state and private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The area in which the Spruce Moose Project would occur includes a checkerboard (alternating square mile sections) of PCTC lands and lands administered by CNF. Foreseeable activities on PCTC lands in the action area are covered by the Plum Creek HCP, and the effects have been incorporated into the environmental baseline considered in this Opinion. The effects of PCTC activities that would not occur without the proposed ROW are considered part of the proposed action in this Opinion (refer to the Background and Proposed Action sections, above). However, effects of PCTC activities are not analyzed further in this Spruce Moose Opinion because they were evaluated in the November 20, 2000, Opinion for the HCP. Since there are no other non-Federal lands in the action area, all foreseeable future activities (within the 30 year permit period of the HCP) are expected to be covered by the Plum Creek HCP, or they will be subject to section 7 consultation.

VI. CONCLUSION

NMFS has determined that, based on the available information, the Spruce Moose Project is not likely to jeopardize the continued existence of Snake River steelhead or result in the destruction or adverse modification of designated critical habitat. This conclusion is based on analysis of effects of the action on steelhead and essential features of designated critical habitat (encompassed in NMFS' matrix) considering environmental baseline conditions and cumulative effects of foreseeable non-Federal actions. Specifically, the conclusion is based primarily on measures to minimize sediment delivery from the new land disturbances and to offset this effect approximately three-fold by reducing sediment delivery from existing sources (see summary at the end of "Effects of the Proposed Action" section, above). The conclusion is also based on components of the action (summarized above and in the BA) and commitments in the Plum Creek HCP that are expected to result in negligible or beneficial effects on other components of steelhead habitat, including water temperature, other elements of water quality, and pool-forming instream large wood. The NMFS' conclusion also assumes that future PCTC actions

will continue to be conducted under the terms of the HCP, resulting in improved riparian habitat function and sediment reductions.

VII. CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NMFS believes the conservation recommendations listed below are consistent with these obligations, and therefore should be implemented by the CNF.

1) The CNF should conduct an Ecosystem Analysis at the Watershed Scale (EAWS) of Brushy Fork Creek per the current interagency EAWS Guide and incorporating the Roads Analysis process referenced in the December, 2000, Interior Columbia Basin Ecosystem Management Project (ICBEMP) Final Environment Impact Statement (FEIS).

2) The CNF should coordinate with PCTC to develop joint standards and guidelines for designing/timing activities in Spruce Creek to minimize effects on peak flow and stream channel alterations related to increases in peak flow.

3) The CNF should coordinate with PCTC to develop joint guidelines for designing/timing activities in Spruce Creek to minimize land management related sediment delivery to near-natural levels.

VIII. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: (1) the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; (2) new information reveals that the action may affect listed species or their designated critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a way that causes an effect on listed species that was not previously considered; (4) repairs/sediment reduction measures are not completed at the 86 sediment source sites; or (5) the Plum Creek HCP is suspended or terminated before the 30-year term.

IX. MAGNUSON-STEVENS FISHERY CONSERVATION and MANAGEMENT ACT

A. Background

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Act (MSA) to establish new requirements for essential fish habitat (EFH). The new regulations require designation of EFH in Federal fishery management plans, and Federal agencies are required to consult with NMFS on activities that may adversely affect EFH. The EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3)." The Pacific Fisheries Management Council (PFMC) has designated EFH for Federally managed groundfish, and coastal pelagic and Pacific salmon fisheries. The EFH for the groundfish and coastal pelagic fisheries are marine designations, while the Pacific salmon EFH includes freshwater, marine, and estuarine environments.

The MSA requires consultation for all actions that may adversely affect EFH, and it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location. The consultation requirements of section 305(b) of the MSA [16 U.S.C. 1855(b)] provide that:

1) Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

2) NMFS shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH.

Federal agencies shall, within 30 days after receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

B. Pacific Coast Salmon and Essential Fish Habitat Affected by the Proposed Action

The Pacific Coast Salmon Fishery Management Plan (FMP) was approved by the Secretary of Commerce on September 27, 2000. Pacific salmon species covered in the FMP are coho salmon (*Oncorhynchus kisutch*), chinook salmon (*O. tshawytscha*), and pink salmon (*O. gorbuscha*). The FMP designates EFH for the Pacific salmon fishery as all those streams, lakes, ponds, wetlands, and other waterbodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above certain impassable barriers identified by PFMC, or above longstanding naturally impassable barriers (i.e., natural waterfalls in existence for several hundred years). Activities

occurring above impassable barriers that are likely to adversely affect EFH are subject to the consultation provisions of the Magnuson-Stevens Act. The Lochsa River drainage, where the proposed action would occur, is designated EFH for chinook salmon, including unlisted stocks of hatchery origin.

C. Summary of Proposed Action

The proposed action is described above (see Proposed Action, section II).

D. Effects of the Proposed Action on EFH

1. General Considerations

This Opinion discusses the direct, indirect, and cumulative effects of the proposed action on listed Snake River steelhead and designated critical habitat for steelhead, pursuant to section 7 of the ESA. The effects are summarized, above, in section IV, "Analysis of Effects." Since designated critical habitat for Snake River steelhead in the Lochsa River drainage is identical to the area designated as EFH for chinook salmon, for EFH analysis, potential adverse effects on designated critical habitat for ESA-listed species and EFH MSA-managed species are considered to be functionally equivalent. Effects on salmon EFH would be the same as those described for steelhead designated critical habitat in this Opinion.

2. Estuary and Nearshore EFH

Estuary and nearshore EFH is not affected by the proposed action because the proposed action is several hundred miles inland, and relatively small in scope.

3. Coastal Pelagic EFH

Coastal pelagic EFH is not affected by the proposed action because the proposed action is several hundred miles inland, and relatively small in scope.

4. Salmon EFH

The BA determined that the proposed action was likely to have adverse effects on salmonid habitat and designated critical habitat. Likewise, the proposed action is likely to have adverse on salmon EFH.

The potential adverse effects of the proposed action on critical habitat are discussed, above, in section II, "Analysis of Effects."

Chinook salmon are not listed under the ESA in the action area, but unlisted chinook salmon are known to occur there. The Nez Perce Tribe has recently undertaken efforts to reintroduce chinook salmon in the upper Lochsa River drainage, and chinook salmon densities have increased in recent years. Chinook salmon are found in relatively high densities in Brushy Fork, compared to other tributaries to the Lochsa River. Potential spawning areas for chinook are limited in the Spruce Creek drainage, due to steepness and a passage barrier near the mouth, but there is a high concentration of chinook salmon spawning that occurs downstream, in Brushy Fork. The effects of the proposed action on chinook salmon spawning habitat are similar to those described in this Opinion for Snake River steelhead, although steelhead spawning areas also occur further upstream than areas used by chinook.

E. Conclusion

Based on the findings in the ESA analyses, NMFS believes that the proposed action may adversely affect designated EFH for chinook salmon. However, potential adverse effects are reduced through measures to minimize sediment delivery from the new land disturbances and measures to more than offset this effect by reducing sediment delivery from existing sources (see summary at the end of "Effects of the Proposed Action" section, above), and by the provisions of the Plum Creek HCP.

F. EFH Conservation Recommendations

Conservation recommendations are discretionary measures suggested to avoid, minimize, or otherwise offset adverse modification of EFH, or to develop additional information. This Opinion includes ESA Conservation Recommendations, Reasonable and Prudent measures, and Terms and Conditions that serve the purpose of EFH conservation recommendations, and therefore, are hereby incorporated by reference, as EFH conservation recommendations.

G. Statutory Requirements

The MSA and Federal implementing regulations (50 CFR Section 600.920) require Federal Action Agencies to provide a written response to EFH Conservation Recommendations within 30 days of receipt.

H. Consultation Renewal

NMFS will reinitiate internal EFH consultation if the action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR Section 600.920 [k]).

IX. REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion.

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X. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR Part 222, November 8, 1999). Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary; they must be implemented by the CNF so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The CNF has a continuing duty to regulate the activity covered in this incidental take statement. If the CNF (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

NMFS finds the proposed action has a very low risk of causing take of listed salmon or steelhead. NMFS cannot quantify the take which may occur from the proposed action. NMFS does, however, with this Opinion, authorize a very low level of take which may occur from Federal activities. Any take that may occur from PCTC activities has been previously authorized in the incidental take permit for the HCP. To ensure that take, if it does occur, is kept to a very low level, NMFS developed the reasonable and prudent measures and terms and conditions described below.

B. Reasonable and Prudent Measures

NMFS determines that the following reasonable and prudent measures are necessary and appropriate to minimizing take of listed salmon and steelhead:

1) The CNF will ensure that repairs of roads and culverts are completed at the 86 sediment source sites described in the BA.

2) The CNF will monitor the application of the proposed wet season road use restrictions and report the results to NMFS.

3) The CNF will ensure, through conditioning of the ROW permit, that PCTC will follow the requirements of the Plum Creek HCP in conducting activities that are interrelated/interdependent with the ROW.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the CNF must comply with the terms and conditions listed below, which implement the reasonable and prudent measures. These terms and conditions are non-discretionary.

1) The CNF will include in the ROW permit a condition requiring completion of the 86 sediment source repairs. If these actions are not completed within five years (October 1, 2006), the ROW permit will become invalid.

2) The CNF will include in the ROW permit the wet season road use restrictions outlined in the March 18, 1999, letter from PCTC to CNF, refined in an April 21, 1999, letter from the CNF Level 1 Team to CNF, and further refined in summer 2000 discussions between PCTC and CNF. The ROW permit will become invalid if seasonal use restrictions are not followed by PCTC or their contractors. CNF will report to NMFS within 5 days any instances where the requirements were not met.

3) The CNF will include in the ROW permit a condition that the ROW is contingent on PCTC adherence to the stipulations of the HCP. If the HCP requirements are not met, or if the HCP is relinquished or revoked in the Spruce Creek drainage, the ROW permit becomes invalid.